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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/813,978 | 03/22/2001 | Naoto Akiyama | Q63677 | 6052 |

7590

08/21/2003

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EXAMINER

LUU, AN T

ART UNIT

PAPER NUMBER

2816

DATE MAILED: 08/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Appli ation No.

09/813,978

Applicant(s)

AKIYAMA ET AL.

Examiner

An T. Luu

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6, 7 and 10 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 8 and 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Applicant's Amendment filed on 11-26-02 has been received and entered in the case. The rejections set forth in the previous Office Action are maintained as indicated below.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 6-7 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by the Mentler reference (U.S. Patent 4,308,577).

Mentler discloses in figure 2 an apparatus comprising a transformer 16; a primary side (side having switches 21-23) for controlling current on the primary side of the transformer according to a control signal (signals turning ON/OFF switches 21-23) for controlling a semiconductor switch (21-23); and a secondary side (side connected to 14-1 and 14-2 circuitries) for driving a switch (18 or 20). Therefore, it is inherent that the gate-emitter voltage of the switch is alternately switched between ON and OFF states. In other words, this voltage is continuously either in positive or in negative for a period of time as required by claim 1.

As to claim 2, figure 2 shows the control signal of switches 21 and 22 to transmit power for controlling plural switching devices (30, 34, 40, 42, 56, 58) of the secondary side and prevent back electromotive force (via diodes) caused by current flowing in the transformer is cut off.

As to claim 3, figure 2 shows plural switching devices (30, 34, 40, 42, 56, 58) of the secondary side to cause or to prevent current to flow for switching the switch (18 or 20).

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As to claim 6, figure 2 discloses plural switching devices (30, 34, 40, 42, 56, 58) of the secondary side and plural gate driving sections (14-1 and 14-2) driving the switch (18 or 20). It is noted that the switches 18 and 20 are in series.

As to claim 7, Mentler shows transistors 18 and 20 being bipolar transistors.

As to claim 10, the scope of this claim is similar to that of claim 1. Therefore, it is rejected for the same reason set forth above.

Response to Arguments

3. Applicant's arguments filed 11-26-03 have been fully considered but they are not persuasive.

Applicant has argued that Mentler "cannot maintain the voltage between the gate and the emitter of the switching device as one of selected from a state..." because Mentler does not provide a rectifier. Examiner respectfully disagrees with the above assertion and considers Applicant's argument irrelevant since the recitations of claims do not call for a rectifier. It is noted that transistor 18 is ON when its gate-emitter is positive (i.e., $V_g > V_e$). Therefore, Mentler satisfies each and every limitation required by claims.

Regarding IDS filed on 3-27-02, Examiner has considered this document during the initial examination of application. Enclosed herein is an initialized copy of IDS.

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Allowable Subject Matter

4. Claims 4-5 and 8-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record fail to disclose an apparatus comprising elements being configured specifically as recited in claims.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to An T. Luu whose telephone number is 703-308-4922. The examiner can normally be reached on 7:30-5:00.

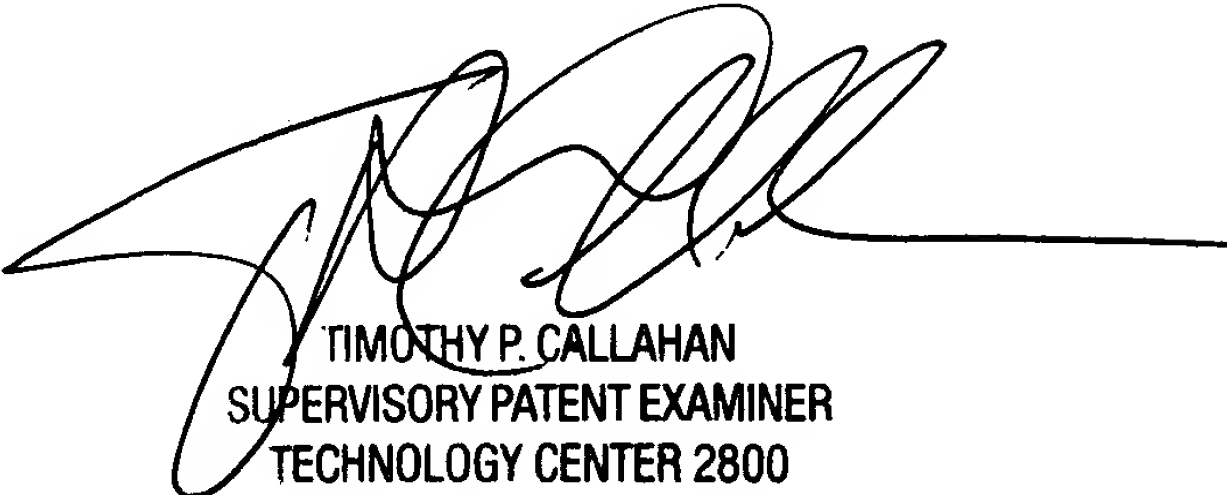
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P. Callahan can be reached on 703-308-4876. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

An T. Luu

8-11-03 *ATL*



TIMOTHY P. CALLAHAN
SUPERVISORY PATENT EXAMINER
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